THE SHEKEL

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MEDALS COMMEMORATING

THE MOUNTAIN JEWS

FEATURING:

MEDALS OF JEWISH COLONIZATION IN SOVIET RUSSIA by Ira Rezak

FROM STONES TO SHEKELS by Charles Catlett

HEBREW MAGIC SQUARES by Simcha Kuritzky

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PRESIDENT'S MESSAGE

While AINA is an educational and not a political organization, I feel we would be amiss if we did not express our sympathy to the many innocent victims of the Gaza war, particularly the unprecedented number of Israel civilians killed, maimed, and taken hostage. Many of us personally know victims, or know someone who does. I encourage you to not only offer prayers and sympathy, but to donate to some of the many reputable charities who are assisting in the war and humanitarian efforts. May we live to see the day that peace and justice are firmly established in the holy land.

Simcha Kuritzky

MEDALS OF JEWISH COLONIZATION IN SOVIET RUSSIA

By Ira Rezak

History, subject to endless re-interpretation, is said to be written by the winners. But in the course of the 20th Century's cyclic turmoil on the territory of Russia, many conflicting viewpoints made for much uncertainty about which side of many conflicts would be better for the Jews. Growing economic opportunity but also gross antisemitic government policy, poverty and persecution characterized the late years of the Tsarist Empire and resulted in mass emigration. The Russian Revolution of 1917 was initially seen as a hopeful opportunity by millions of Jews only to find it succeeded by Stalinist terror, Nazi atrocities, and ultimately by an ignominious end to the entire Soviet structure. The current autocratic and oligarchical system, as its Tsarist forbear, has allowed some few individual Jewish winners but has disappointed the majority of those Jews still remaining in Historical Russia and led to further waves of outward migration.

A brief period in the 1920s and 1930s saw a development not typically emphasized in recounting the history of 20th century Russian Jewish experience. This consisted of a series of state sponsored internal migrations designed to convert masses of traditional shtetl-based Jews into Russian

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agricultural peasants. Significant propaganda resources but relatively few economic resources were invested in this daring social experiment. This article illustrates a few artifacts recalling this largely failed and only half-remembered attempt to alter the fate of Jews within the Soviet Union.

OZET/ JEWISH PEASANT. Magazine covers. 1925 & 1926.

ОЗЕТ, **О**бщество **з**емлеустройства **е**врейских **т**рудящих ся, *The Society for Settling Toiling Jews on the Land*, געזעלשאפט פאר איינארדענען ארבעטנדיקע יידן אויף ערד אין פ.ס.ס.ר, founded in 1924 was the official Soviet organization for the promotion of Jewish migration from small towns (shtetls) and villages to collective farms where the migrants were to be trained as agricultural workers. In the radical communist political environment where personal societal origins were

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considered either valuable (workers and peasants) or reactionary (bourgeois and nobility) the anticipated "conversion" of landless shtetl Jews, previously deemed economically of marginal value, into productive proletarians was a not unattractive proposition for Jews as well as for the Soviet establishment.

OZET Lottery Receipt & Poster c 1932.

Left to right: OZET "Wounded" Badge c 1932. ICOR Celluloid Buttons: Greeting, Fifteenth Anniversary of ICOR, 1924-1939. Greeting, Yiddishe Sovietishe Briobidzhan, c 1935.

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Several hundred thousand Jews were recruited and moved, mainly from Belarus to the Ukraine and especially to Crimea. Unfortunately, the general experiment of agricultural collectivization, while theoretically exciting, proved less than successful in socio-economic terms, and was also unpopular among the existing Ukrainian peasantry. The economic depression of the 1930s and the infamous Holomodor (the Stalinist ruthless confiscation of Ukrainian agricultural production) were also important factors in the failure of the planned creation of a Jewish peasantry in Southern Russia. The original OZET project that focused on Southern Russia was further entangled in the Stalinist purges of old Bolsheviks in the late 1930s, and this aspect of the program was officially terminated in 1938.

Birobidzhan. Soviet Stamps, Left - 1933, Right – 1992.

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Birobidzhan EAO. Medal, 60 mm. Aluminum. No date.

Birobidzhan EAO. Medal, 60 mm. Aluminum. 50th Anniversary, 1934-1984.

Birobidzhan EAO. Medal 60 mm. Aluminum. 50th Anniversary, 1934-1984.

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Birobidzhan EAO. Four badges. Aluminum 50th Anniversary, 1934-1984.

Birobidzhan Star/ Shtern Newspaper. badge, Aluminum. 50th Anniversary.

Birobidzhan Award Badge for Military Veterans. Aluminum. 1997-2007.

Apart from the official Soviet sponsorship of the original OZET enterprise, support was offered by the international Jewish, Yiddish-speaking community which was inspired by

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socialist idealism. *The Organization for Jewish Colonization in Russia,* יִידישע קאָלאָניזאַציע אָרגאַניזאַציע אין רוסלאַנד, known as ICOR, (איקאר), was founded in New York in 1924, simultaneously with the Soviet initiative. ICOR evolved in its purpose over time but survived in one form or another until 1951 when the McCarthy anti-communist campaign in the United States forced it finally to shut down.

The typical Soviet top-down centralized planning and decision-making process, however, produced a second iteration of the same fundamental migratory idea for Jews in 1928. While officially proposed and initiated in that year this plan was not fully implemented until the 1930s. The new program encouraged the migration of shtetl Jews to Birobidzhan, a small semi-autonomous region in far-Eastern Russia, virtually on the Chinese Manchurian border. Formally established in 1934 as the Еврейская Автономная Область (ЕАО), *The Jewish Autonomous Oblast,* יִידישע אָוטאָנאָמע געגנט, its official language was declared to be Yiddish. Again, tens of thousands of Russian Jews moved to the area, many voluntarily, some even from countries other than Russia, encouraged by the expectation that agricultural re-settlement and mineral extraction would develop and sustain support for a permanent Jewish cultural center. At its peak, c 1940, the Jewish population in Birobidzhan reached about 40,000. However, the remoteness of the area, the harsh local conditions, and the ongoing tumultuous political circumstances in the Soviet Union conspired to limit the attractiveness and success of this venture. The level

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of actual Jewish participation declined progressively so that today, though it retains its original official designation as a Jewish Autonomous Region and boasts a few schools teaching Yiddish and a minor newspaper in that language, the proportion of Jews has shrunken to less than 1% of the total population.

The long-term result of the Jewish colonization projects of Soviet Russia must be judged a failure, consigned, as Lenin might have said, to the dustbin of history. From the point of view of Judaica collectors, of those interested in the material remains of past cultures, evidence of the episodes briefly described above is sparse. Despite the official state sponsorship of these enterprises, no associated local currency appears to have been issued nor were specific postal stamps produced. However, some few contemporary officially authorized items, posters, lottery tickets, illustrated publications, and overprinted Russian stamps exist, and of course, for those interested, local postal cancellations may also be collected. A series of medals and badges was apparently made with Soviet approval to commemorate the 50th anniversary in 1984 of the Birobidzhan settlement. Finally, a few celluloid buttons and at least one medallion were issued by supportive foreign Jewish organizations such as ICOR and round out the few remaining material souvenirs of the failed Soviet Jewish colonization effort. ₪

FROM STONES TO SHEKELS

By Charles Catlett

What do you get if you cross a man with a lion, a bee, and a scorpion? You don't think it can be done? Over three thousand years ago it *was* done – and turned into a scale weight. Try to imagine going to a market back then and weighing a valuable mound of spice or pieces of silver in one scale pan and seeing this creature resting in the other pan. Whoever produced that weight went to a lot of trouble to make it look authoritative.

Iron Age bronze hybrid weight: human head, forepart of lion, bee's body, scorpion tail. 12th-8th centuries BCE. 16.9g, 26.1mm.

Coins weren't invented until around 650 BCE. Before that, for thousands of years, the balance scale and scale weights allowed value to be measured and exchanged. What remains of scale weights? How did they evolve? How were they used? In this article, I focus on the southern Levant. Though small in area, the Levant was a crossroads for worldwide commerce, and a had a highly developed system of scale weights.

Continued

In ancient times, scale weights were simply called "stones," or "pocket stones." And for thousands of years before coins, the word "shekel" was used throughout the ancient Near East to represent a unit of *weight* -- except Egypt, which used the Qedet. The root "*sql"* means "weighing" in all the Semitic languages. And the Hebrew term "keseph," translated as "money," literally means "silver," which was the metal weighed most often against the scale weight.

In ancient times most trade was by barter. People exchanged items directly. At some point in time – likely starting in the Chalcolithic (Copper) Age – precious metals like copper and later bronze, silver, and gold – started to be used as units of value. The "price" of a product was set in relation to the metal. There are records of the "prices" of many things in ancient times – including daily wages for scribes and vineyard workers, amounts of grain and livestock, and even the penalties for crimes. But payments weren't usually made directly in precious metal – they were made in goods. For example, a laborer's wage was assessed in a value of sliver, then that same value in silver was paid out in grain or other products.

The process of weighing was a bit complicated and there were limits to the quantity that could be weighed. Weighing required both balance scales and weights, and most commodities were measured by volume. It is highly unlikely

that every person going to a market in ancient times had a scale and a set of scale weights. But each market may have had them for communal use, and busy traders may also have carried a set. It was mostly precious metals and perhaps other scarce products such as spices and incense which required weighing.

A significant example of weighing metal in payment is found early in the Book of Genesis. After Sarah dies, Abraham wants to purchase a burial site for her. Standing among a group of the local Hittites and their leader Ephron, he asks the price to purchase the site. Ephron tells Abraham to simply bury his wife. Abraham asks again and gets the same reply. Abraham asks a third time – he really wants title to the land, not just permission for the burial.

"Ephron then made this reply to Abraham: "My lord, hear me: Land worth 400 shekels of silver – what is that between you and me? Go bury your dead!"

"Abraham listened to Ephron, and Abraham weighed out for Ephron the [amount of] silver he had named in the hearing of the Hittites – 400 shekels of silver, [using weights] standard among the traders." Genesis 23:14-16.

There are three very important points regarding the payment in this (perhaps) first real estate transaction on record. First, Abraham *weighed out* 400 shekels of silver – there was no

Continued

coinage. Second, the transaction was done in the presence of witnesses. Third and most important for this paper's discussion, he used weights "standard among the traders."

This third point is important because even though the shekel was often the accepted *unit of weight,* the *weight standard* – the weight of a shekel –varied by region. There is no way of knowing what the shekel weight was at the time when Abraham bought that burial plot or when that portion of Torah was written. Weight standards varied considerably throughout the ancient world. We do know that the shekel of Judah from the late 8th century BCE to 586 BCE weighed approximately 11.4 grams. 400 Judean shekels of silver paid by Abraham would have been 10 *pounds* of silver in today's comparison. But the Hittite shekel of the same time weighed about 11.75 grams, which would be *10.3* pounds of silver. We know only that Abraham paid the standard among traders of that location.

The history of weighing itself dates back at least 5000 years. Mesopotamia and Egypt were using weights and measures as early as 3500-3000 BCE. You may be familiar with the Egyptian Book of the Dead, in which a human heart is weighed. It was believed the heart recorded the good and bad deeds during the lifetime of the deceased. It was weighed against the feather of Maat – the goddess of truth and justice. This dates from around 1475 BCE. But less well-known are tomb drawings from Thebes from around the same time,

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showing the weighing of gold bracelet-shaped ingots on a balance scale, as pictured here. A scribe is recording the action, and the scale pan opposite the ingots holds an animal-shaped scale weight. Other sizes of animal-shaped scale weights rest in a pan below the weighed ingots.

Book of the Dead, Metropolitan Museum of Art

The scales used in ancient times were simple balance scales. A balance arm or beam was supported in the center, with a pan on either end: one for the goods and one for the weights. A 9th-8th century BCE depiction of a Hittite merchant with a scale shows it balancing on his finger, pictured here. That carving now resides in the Louvre in Paris. Balance arms were initially supported from below – though generally not by fingers. Later, the balance arms were supported from above. Balance arms were mostly wooden, which is why they have not survived as artifacts, but rare ancient stone and bone balance arms are known. Improvement in scale technology

Continued

did not occur until the Roman development of the steelyard balance, which became known across Eurasia by about 200 BCE.

The items in the pans on either end of the balance arm are what are fascinating. Understanding them can be difficult because of limited ancient records and because each region in ancient times had its own weight standard. But there is a lot that we do know.

Scale weights placed on one pan of a balance scale were generally either geometric or figurative in shape. The earliest scale weights were made of stone, usually with a flattened or ellipsoid base to prevent them from rolling off the pan. Stone offered a stable material that did not degrade over time, though it also had the potential to chip or fracture. Naturally hard and dense stone material was chosen, depending on what was available in the location of origin. Later, metal weights offered more design flexibility and a denser material – so smaller weight sizes were possible. Metals did tend to oxidize though, which gradually affected the mass of each weight.

Thousands of early Egyptian weights were documented by Sir William Flinders Petrie in his 1926 book. It is available by print-on-demand, though his writing is a bit confusing. The earliest of the geometric weights were square or oblong. Over time they gradually developed rounded edges to

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become domes or, often, what is known as the "cupcake" shape. The rounded edges helped prevent chipping of the stone. There were also Egyptian weights in the shape of various animals, like those seen in the Thebes tomb painting mentioned above. Only a few of the weights have inscriptions denoting the size of the weight.

Left to right: Set of eight stone Qedet type "cupcake" weights, late 2nd-early 1st millennium BCE. 19.08, 9.75, 9.46, 9.21, 7.63, 5.08, 4.72, 2.99g. Sphendonoid hematite weight, late Bronze Age 1550-1200 BCE. 80.6g, 55.5mm. This is a particularly large example.

The most common shape of the late Bronze Age (1550-1200 BCE) scale weights was sphendonoid (sometimes called ovoid): shaped like grain or a sling bullet. These were round in the middle and tapered on the ends, and often had a slightly flattened bottom. Hematite (iron oxide) – a very hard stone which apparently carved well and was durable – was a common material for these weights. The style originated in Assyria/Babylonia, but was used in weight systems of Mesopotamia, the Levant and Egypt. Grains were the basis of weight calculation in many ancient civilizations and were

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still in use until the beginning of the 20th century. One grain equaled 0.064 grams.

Figurative weights were less common than geometric weights. Among those, the most common were in the shape of a sleeping duck. These date from around the same time as the sphendonoid weights. Why ducks? After an extensive search of the literature, an answer remains elusive.

Ducks may seem especially curious if one views the Middle East as a relatively dry region. But the Levantine corridor is on the edge of two of the world's major migratory bird flyways: the Black Sea/Mediterranean flyway to the west and the East Asia/East Africa flyway to the east. Duck weights were a particularly common form in the Mesopotamian flood plain of the Tigris and Euphrates rivers, where waterfowl were likely plentiful. And the Middle East went through periodic episodes of natural climate change, such as a period when the Arabia-Sahara region had a "wet phase" from circa 1100 BCE to 600 CE, before becoming dry again. Ducks may have indeed been common to the region in ancient times. Duck-shaped weights are notably absent from Egypt until later dynasties, but they were common in Assyrian and Babylonian territories.

Ben Greet's 2021 article hints at another possible reason for the duck weights. Duck-shaped stamp seals, ceramic vessels, and ivory objects first appeared in the Levant during the time

of Egyptian rule from circa 1500 – 1100 BCE. They likely served during that time as symbols connected to the spread of Egyptian religious beliefs. And the imagery likely served as a marker of elite status through its close relationship to Egyptian power. It isn't hard to imagine duck-shaped weights having an authoritative connotation when introduced in the ancient Levant. This does not, however, explain their frequency in Mesopotamia – so we still have no definitive explanation for the popularity of the duck motif.

Duck-shaped scale weights (L to R): Babylonian agate sleeping duck, 2nd millennium BCE, 5.7g, 23mm; Near East Late Bronze Age 1500-1200 BCE crystal sleeping duck, 1.73g, 23mm; hematite sleeping duck, 2nd millennium BCE, 15.0g, 23mm; Near East Late Bronze Age 1500-1200 BCE bronze 5-shekel duck, 41.97g- shekel of 8.39g, 25X30mm; Canaanite bronze flying duck, 12th-8th centuries BCE, 8g, 23.5mm.

But their popularity is beyond question. They ranged from tiny 5 gm ducks to one hefty duck of 5125.6g in David Hendin's book *Ancient Scale Weights and Pre-coinage Currency of the Near East*. More on that fabulous reference later. Hematite was a common material used for carving duck weights, though granite, limestone, carnelian/agate, lapis lazuli, and

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even quartz crystal were also utilized. Bronze was used for weights late in the Bronze Age and into the Iron Age, which allowed for more ornamental designs.

Bronze weights were made in a stunning variety of other zoomorphic forms. There is evidence these were created in Egypt or Syria, but they have also been found throughout the Aegean and the Levant. Scorpions, frogs, fish, rabbits, bulls, lions, lambs, tortoises, even bees and flies were produced. Remarkably carved and polished zoomorphic hematite weights were used throughout the Middle East. Some bronze Syrian-Phoenician weights (sometimes referred to as Canaanite) feature the face of a man.

Left to right: Canaanite bronze bull head, 12th-8th centuries BCE, 12.4g, 18.4mm; Hematite cow head, 12.7g, 23mm

Left to right: Canaanite bronze head, late Bronze Age-Iron Age. 5.2g, 16mm. Near East reclining bronze lamb, 2nd millennium BCE. 37.2g=4 qedet, 20 X 35mm. Near East bronze rabbit Late 2nd-early 1st millennium BCE. 12.5g, 21.2mm. Bronze locust, 8th-7th centuries BCE. 4.9g, 24mm

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Left to right: Near East sphynx bronze weight, 11th-8th centuries BCE. 46.5g, 38.8mm. Inscribed on the base. Late 2nd-early 1st millennium bronze hedgehog.
49.46g, 31.5mm

Perhaps rarest of all are weights which were inscribed with their weight. The sphinx weight here was one of three different-sized sphynx weights at auction in Israel a few years ago. When it arrived and I photographed it, I saw ancient Hebrew letters on the base, something not previously noted! With the help of David Hendin, the inscription was read as ChamiSha or five (shekels). At 46 grams, that indeed corresponds to ~9 g per shekel of an Egyptian-Ugaritic standard. A 2014 article published by Robert Deutsch listed only thirty recorded specimens of inscribed weights. There are surely more (including this one first noted in 2018).

How do we know that these are scale weights and not just decorative figurines or amulets? One answer is that they roughly match known commercial weights from the ancient world (allowing for corrosion and other minor discrepancies). Many are also found in a standard range of sizes, like the scorpion "family" pictured here. Some that were underweight were drilled and filled with a bit of lead to

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correct the weight. A few even have an added calibration ring to correct any difference.

The beautiful weight that opened this article – the creature with the head of a human, forepart of a lion, body of a bee, and tail of a scorpion – might, in fact, have been taken for a decoration or even an item of worship – if not for the calibrating ring around the neck, confirming its use as a scale weight.

Left to right: Bronze scorpion weights, 12th-8th centuries BCE. 9.0g=1 qedet, 27mm; 4.8g=1/2 qedet, 22mm; 2.8g= ¼ qedet, 19mm. Bronze scorpion weight with calibration ring around tail. Late Bronze Age 14th-13th centuries BCE. 8.73g, 25mm. Bronze duck weight with calibration ring around neck. Late 2nd-early 1st millennium BCE. 15.1g, 35mm

But how could values be assigned with so many different weight shapes and sizes? It was difficult, because there was no standard system of weighing throughout antiquity – every region had its *own* standard. That was fine for citizens who remained at home and used the local standard regularly. But long-distance trade often required more than one set of scale

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weights to find correct "exchange rates." When a Late Bronze Age (circa 1320 BCE) Phoenician shipwreck was found off the coast of Uluburun, Turkey it contained *four* different sets of scale weights apparently to deal with international trade: three sets of domed – or sphendonoid-shaped weights and a fourth set of zoomorphic weights. Phoenician ships like the Uluburun wreck were known to carry a variety of goods from the Near East to trade with the Aegean, Africa, and Egypt.

The ancient Holy Land was a crossroads of trade among many regions, and at least three different mathematical weighing systems were in use at the same time. The Egyptian system was based on factors of ten: ten qedet to one deben, ten deben to one sep. The Babylonian system used factors of six (or sixty): 180 barleycorns to one shekel, sixty shekels to a mina, sixty minas to a talent. And the Greek and Aegean worlds used a binary system of upward doubling of the size of the weights.

This is where David Hendin's book is invaluable. He not only explains the various weight systems, but each item in the catalog is listed by weight in modern grams as well as in its weight in the appropriate ancient equivalent.

One ancient weight system that is well-documented is the Judean weight system from the First Temple Period – about 1006 BCE to 586 BCE. This weight system was unique to

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Judah. Israel (to the north) lacked a system of inscribed weights, perhaps because it was conquered by the Assyrians before it could develop such a system. Almost all the Judahite scale weights are limestone domes with flat bases. There are over 500 known with inscription symbols that demonstrate a decipherable commercial system. There are also many more non-inscribed weights that were found in excavations and the modern antiquities marketplace. Some of these had markings in ink or paint, suggesting that most of the uninscribed weights were once painted rather than inscribed. Very few of these weights were bronze and they were mostly cube shaped.

The shekel weight is mentioned in three ways in the Bible: as "current money of the merchant," as a "holy shekel," and as a "king's weight." The inscribed Judean shekel weights were in denominations of 1, 2, 4, 8, 16, 24 and 40 shekels. The 4- and 8-shekel weights are the most common ones found. Apparently, they were made to correspond to the Egyptian deben, which equaled the weight of eight shekels. The symbol for shekel was described by R.B.Y. Scott in 1959 as resembling a figure "8" with the upper loop open, possibly representing a "money bag" (of silver). He did not know the origin of the symbol. There were numerous theories, but in 1998 Raz Kletter correctly described it as "a sort of Hieratic shortening for the word shekel." Other Hieratic [ancient Egyptian cursive] symbols help indicate the size of other weights.

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Inscribed Judean limestone weights, Iron Age III, 9th-7th centuries BCE (L-R): 8 shekels, 91.35g; 4 shekels, 43.3g; 2 shekels, 22.7g; 1 shekel, 11.0g. Inscribed Judean bronze weights, 7th-6th centuries BCE: 4shekels, 45.42g; 1 shekel, 11.0g.

The shekel was also divided into smaller denomination weights. A nezef weight, though not mentioned in the Bible, was the equivalent of 5/6 of a shekel, as well as the Judean equivalent of an Egyptian qedet. The beqa was the weight of a half shekel – the annual tribute at the temple in Jerusalem.

A pym weight, the weight of 2/3 shekel, was only mentioned once in the Old Testament, in I Samuel 13:21. It was the amount paid to Philistine metalsmiths for sharpening iron tools and weapons. The Philistines were the first people in the southern Levant to utilize iron technology and for some time they remained the only group with the skills to use it. Having sharp farming tools and weapons was important and worth the price.

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Inscribed Judean limestone weights Iron Age III, 9th-7th centuries BCE (L-R): nezef (5/6 shekel), 9.4g; pym (2/3 shekel), 8.4g; beqa (1/2 shekel), 5.4g

Inscribed Judean limestone gerah weights, Iron Age III, 9th-7th centuries BCE (L-R): 3 gerah, 2.0g; 5 gerah, 2.9g; 6 gerah, 3.0g; 7 gerah, 4.1g; 8 gerah, 4.3g

The gerah was the smallest Judean fractional weight unit and is mentioned five times in the Bible. The gerah weights come in multiple sizes: from two to 10 gerah – all with hieratic numerals depicting the weight value. The word "gerah" is not written on the stone weights due to their small size, but they are identifiable as gerah from their depiction on contemporaneous "ostraca" – pieces of pottery with writing. Biblical writing states that there are twenty gerah to a "holy shekel", and twenty-four gerah to an ordinary shekel. The "holy" and "ordinary" shekel weights might indeed be

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different, but because all known shekel weights have been found in secular contexts (not at religious/royal sites), it is believed that all Judean shekels were the same weight.

What about larger weight units? There was the mina, which was equivalent to fifty shekels of 11.4 grams, or 570 grams. And there was the Judean talent, equal to sixty mina, 32.4kg. There are no known inscribed Judean weights of this size. Measures of talents were usually reserved for large transactions – possibly tribute or ransom – not everyday commerce. They were essentially units of accounting rather than everyday trading.

There are several known stone weights from one to ten mina in size pictured in David Hendin's book. And there is a diorite (stone) duck-shaped weight found in Babylon that weighs 26.7kg. It has a cuneiform inscription giving its weight as one "true" talent [of Babylon].

This brings us to the final question: What was on the other end of all those the balance scales?

Silver was the most commonly weighed and measured metal. But copper was also very important.

Copper was valued in the form of large and small ingots, which could be transformed into whatever was needed – tools, utensils, and various decorative objects. The earliest

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known copper production in the southern Levant was around 4500-3800 BCE (during the Chalcolithic Age), but it is unlikely that much was traded at the time. There were natural deposits of copper in the southern Levant along the margins of the Arabah Valley in the Negev (separating modern Jordan and Israel) at Timna (~15 km north of Eilat) and more importantly at Faynan 100 km further to the north. The lower Sinai was also a potential source of ancient copper, though it is unclear to what extent. Cyprus was a rich source of copper in the bronze and iron ages, as it had large deposits and exported large amounts of the metal. Copper was first produced there about 4000 BCE, and bronze (copper alloyed with tin) was exported starting around 2000 BCE.

The talent provides a good example of large weights of metal ingots used in trade. It was an early Near Eastern weight unit, likely indicating the average "load" a man could carry. It became a common unit in many cultures in the ancient world. In some ancient texts, certain large commodities were given the same value as a certain number of oxen. Many talent-sized copper ingots weighing in the range of 30kg have been found which coincidentally appear to be shaped like an ox hide. These "ox hide ingots" were not, however, representations of ox hides– they were merely heavy rectangular ingots with handles for carrying. A 1200-1150 BCE bronze figure from Cyprus shows one being carried; a modern coin from Cyprus features the same image.

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Oxhide ingot found in Cyprus, c 1200-1050BCE. 36.92kg, 70.5cm X 41.5 cm, 5.2cm thick. Courtesy British Museum. Decoration of a man carrying a copper ingot. Cyprus, Late Bronze Age 1200-1150 BCE. 3.89cm X 6.19cm. Courtesy Royal Ontario Museum. Cyprus five mils coin, 1955. Courtesy Vcoins.com.

Hundreds of these oxen hide or "load" ingots have been found in shipwrecks off the coast of Turkey and Israel dated from as early as the 14th-13th centuries BCE, indicating valuable trade in copper throughout the region. The circa 1320 BCE shipwreck off the coast of Uluburun, Turkey, mentioned earlier, had 354 oxhide ingots – ten *tons* of copper – originating from Cyprus. But copper is a soft metal. Alloying it with tin turns it into bronze – a much stronger and more valuable metal. And tin is not usually found where copper is found. That same Uluburun ship had one *ton* of tin ingots as well! Thanks to modern scientific techniques, archeometallurgical analysis has found that 1/3 of that tin originated in central Asia and 2/3 came from the Taurus Mountains in Turkey. Analysis of tin ingots (from a slightly later time) found off the coast of modern Israel suggest that they may even have originated from as far away as the Cornish tin mines in England.

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While large copper or bronze ingots were clearly used in long-distance trade, smaller bronze ingots were required for convenience. Some were wedge or tongue shaped, and some ring or bracelet shaped. Those golden bracelet-shaped ingots featured in the Egyptian image at the beginning of this article weren't only made of gold. They were also made of copper or bronze. Many are known from finds in Egypt and modern-day Israel. The one pictured here was found in a clay vessel with several similar ones at Tel Nimrin in the Jordan Valley – a few miles from the Dead Sea.

Left to right: Iron Age bronze bracelet shaped ingot. 243g, 90mm. Hacksilber, weighing from 0.42g to 37.6g. Late Bronze Age-Iron Age hacksilber, 13th-9th centuries BCE. 110.2g, 6.7 X 4.5cm.

But it was silver, in different sized pieces, that was most often weighed on the balance scale in the pan opposite to the scale weight. Being of much higher value than copper or bronze, smaller amounts of silver were much more convenient for weighing and use in commerce. Particularly in ancient Israel and Phoenicia, it is certain that silver served all the functions that would later be served by coinage: it measured value, stored value, and was used both as a payment and as a means

Continued

of exchange, even for small-scale transactions. And this was the common practice for hundreds of years *before* coins were invented. Of course, the silver was not formed into pre-weighed or marked units like coins or scale weights.

Over thirty well-documented hoards of silver pieces dating roughly from the iron age (1200-860 BCE) have been found in the Southern Levant. Many were in ceramic vessels, but some were in cloth bundles, a few secured with a clay seal, known as a "bulla." The hoards consisted of different silver objects, including jewelry, ingots of various sorts, sheets, wires, and rods – mostly cut or broken. Until the 1950's, these were referred to as "silversmith's hoards." But growing evidence indicates that the pieces were not byproducts of jewelry making, but were discrete objects used on the pan of a balance scale.

The term "hacksilber" was coined (no pun intended) to describe bits of silver that were hacked or cut apart to be used in commercial transactions. The term originated in German to describe Viking Age silver hoards and has been applied to ancient Greek silver usage as well. In many instances in the Southern Levant, molten silver was poured onto a flat surface, to be broken apart once it cooled. The nearly four-ounce flat chunk of silver seen here is clearly "hacked" from an even larger section. Countless other smaller "hacksilber" pieces have been found in present-day Israel, and it is easy to

Continued

see how several pieces could be added to a scale pan to counterbalance a scale weight.

Silver is not found naturally in the southern Levant, so where did it come from? Silver was in wide use for commerce perhaps over 1000 years prior to the production of coinage, so tracking its source helps understand ancient trade and commerce.

Those hoards found in the Levant were analyzed and archaeometallurgy has once again provided some tantalizing results. We know that the Phoenicians were masters of the seas and traded throughout the ancient Mediterranean and beyond. Sources of silver in the hoards were found to be from Anatolia (modern day Turkey), Iberia (Spain), and Sardinia. And the date of those hoards, as early as the 12th century BCE, predated known Phoenician settlements in those areas of origin. Which means the Phoenicians were exploring for and trading in silver centuries before settling in outlying colonies. They possibly brought the technology for producing silver from ore to the mining areas. And besides bringing silver eastward to the Levant, they brought locally mined copper from Timna and Faynan west as far as Iberia.

Gold was extremely rare in the Southern Levant; none is naturally found there. Gold arrived either directly from Egypt and other African sources, or through Mediterranean trade. There have been a few pieces of ancient "hack gold"

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found in modern Israel, and one small hoard of it was found in Northern Africa, but those are very rare exceptions.

Gold and silver were, of course, used in jewelry during ancient times. Bracelets, earrings, and necklaces became storehouses of wealth for both men and women. This ornamental wealth could be used for commercial purposes when needed. And it was used in Exodus 32:2 as a donation to make the golden calf. Aaron asked the Israelites to "take off the gold rings on the ears of your wives, your sons, and your daughters, and bring them to me."

Mid 2nd millennium BCE gold and silver earring-shaped means of payment. 10th-6th centuries BCE disc-shaped hacksilber with test cut, 14.23g, 13mm. Stamped hacksilber sections, 10th-6th centuries BCE, found in Israel. 13.35g, 20 X 20 mm (one of two pieces of stamped silver in a small hoard found in Israel); 1.89g, 7 X 9 mm, also found in Israel.

1. Reconstruction of the original disc weighing 4 shekels (50-55 g)
2. Application of 4 stamps
3. Scoring into 4 pieces, each weighing a shekel
4. Separation of each piece

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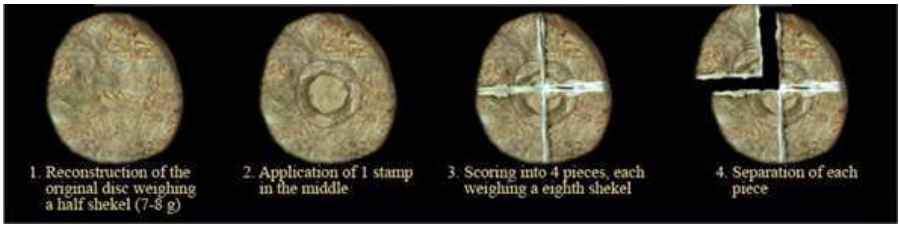
1. Reconstruction of the original disc weighing a half shekel (7-8 g)
2. Application of 1 stamp in the middle
3. Scoring into 4 pieces, each weighing a eighth shekel
4. Separation of each piece

There is ongoing debate in archaeologic literature about the role hacksilber played in the development of "money." Clearly silver had a value, which could be measured by its weight. But it was not marked or stamped with that value as a coin is. Pieces of hacksilber were almost universally of random weights. There is no evidence of silver being cast into measured sizes, or of bars with marks for cutting (like pieces of a chocolate bar). Research has confirmed this by looking at the microstructure of the hacked ingots' edges and finding they were not cast into shape but rather chiseled off with a tool.

Yet there were rare small discs of silver which were coin-shaped, like the one pictured here. Dating from the 10th-6th centuries BCE, at 14.2 g it was a bit heavier than a standard Judean shekel weight. But someone started to cut it in half – as if making change in a transaction. Taking this a step further are the two quarter sections of different-sized silver discs also shown here, each with a mark from either the workshop where they were made before each disc was cut into quarters, or by a merchant after they had already been separated. Reconstructions by J.P. Fontanille show how the quartered

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segments may have looked before they were separated. These are probably the closest things we have to "coins" of the First Temple period – a couple centuries before real coins show up in the Holy Land.

The first true coins that did appear in the Southern Levant seemed to have come from the ancient Greeks. Controlled archaeologic excavations suggest some may have arrived in the Levant as early as the sixth century BCE. Coins have been found in Israel from all over the ancient Greek world, though many of the coins were Athenian.

Coin production in the Southern Levant itself began in Philistia around the mid-fifth century BCE, initially with imitations of the Greek tetradrachms depicting Athena on the obverse and an owl on the reverse. But even with the production of these coins in Philistia and later Judea, Samaria, and Edom, the weighing of silver against scale weights co-existed for a few hundred more years. Many of those Greek archaic coins that made it to the region were found intentionally cut, and many have been found in hoards along with hacksilber and jewelry. As stated by Eshel, "the fundamental mistrust in the quality of silver would explain why [Greek] coins in Mesopotamia and the southern Levant were still being hacked during the 5th and 4th centuries BCE."

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It is fun trying to match these archaic coin fractions found in modern-day Israel with intact examples of the original Greek coins – here are some examples.

Left to right: Tetradrachm of Athens, 454-404 BCE, cut coin found in Israel. Thraco-Macedonian (Berge) stater, 525-480 BCE, with cut coin.

Left to right: Philistia (Gaza) drachm, 450-333 BCE, with cut coin. Macedon Antigonus Monophthalmos (in the name of Alexander the Great) drachm, 320-301BCE, with cut coin, unknown type of Alexander the Great. Shekel of Tyre (125 BCE-66 CE), with cut coin found in Israel.

Numismatist John Kraljevich began a recent lecture with the statement that "numismatists are storytellers." This story begins with the first use of scales and precious metals and ends here around the 4th century BCE. By this time, coinage had become acceptable in trade in the Levant. There are scale

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weights from later Hellenistic, Roman, and Byzantine periods, which were used in commerce where "money" was already acceptable and unmarked precious metal was not needed. Scale technology had also advanced by then. But that is another story, for another numismatist to tell.

Unless noted otherwise, all objects pictured are from the author's collection. ₪

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COMMEMORATIVE MEDALS OF MOUNTAIN JEWS

By Dr. Vladimir Bernshtam

In 2021, Israeli artist Rami Meir began making a series of medals dedicated to Mountain Jews. Mountain Jews or Gorsky Jews are Jews of the eastern and northern Caucasus, mainly Azerbaijan, and various republics in the Russian Federation: Chechnya, Ingushetia, Dagestan, Karachay-Cherkessia, and Kabardino-Balkaria. The Mountain Jews are the descendants of Persian Jews from Iran. Mountain Jews took shape as a community after Qajar Iran ceded the areas in which they lived to the Russian Empire as part of the Treaty of Gulistan of 1813. The forerunners of the Mountain Jewish community have inhabited Ancient Persia from the 5th century BCE. The language spoken by Mountain Jews, called Judeo-Tat, is an ancient Southwest Iranian language, which integrates many elements of Ancient Hebrew. Mountain Jews came to Persia from Ancient Israel in the 8th century BCE. They were known as skilled warriors and riders. Living in the Caucasus, they were engaged in gardening, winemaking, carpet weaving and fabrics, leather, fish and other crafts traditional for the Caucasus. In total, there are more than 250 thousand Mountain Jews in the world. Most of them currently live in Israel (140-160 thousand), as well as in the United States (40 thousand).

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The artist Rami Meir, the author of the medals described below was born on April 11, 1962 in Baku, the capital of the Azerbaijan SSR, into a family of Mountain Jews. His birth name is Rachamim Migirov. Rami Meir studied at Baku Art College where he specialized in embossing on art objects and jewelry. He started taking interest in pictorial art also in his student days. He began to study styles and artistic movements and try out various techniques all by himself. However, Rami Meir started painting professionally only at a mature age. He began to create the history of his people, the Mountain Jews of the Caucasus and Transcaucasia, in his paintings.

The basis for the images on the medals "Mountain Jews", created by the artist, was a series of paintings by Rami Meir "Mountain Jews", on which, based on historical documents, he recreated the life, crafts, clothes, jewelry of the Mountain Jews of Azerbaijan and Dagestan. In 2021, 3 types of medals were created (Fig. 1 - 6). Each type of medal was made from two types of metals: the first from gold and silver (Fig. 1-3), and the second from bronze (Fig. 4-6). The obverses of these medals depict scenes from three paintings by Rami Meir (Fig. 7-9). The reverses of all medals depict Jewish symbols, the inscription: "Mountain Jews" in Russian and Hebrew, as well as the name of the author in English: "Rami Meir" (Fig. 10, 11). On the edge of medals made of precious metals there is a stamp with information about the fineness of gold (585) and silver (925) (Fig. 12).

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"Caucasian Beauties" Medal in silver and gold, in bronze, and in painting; "Mountain Jewish Farmers" medal in gold and silver, bronze, and painting; "Brothers" medal in gold and silver, in bronze, and in painting.

Continued

The reverse of the medal in silver and gold; the bronze medal reverse; the stamp on edge.

In 2022, the "Carpet Weaving" medal was issued (Fig. 13), on the obverse of which is a drawing of Rami Meir's painting "Guba Carpet Weavers" (Fig. 14).

All medals are made using the casting technique with subsequent manual processing. Precious metal medals have a diameter of 30 mm, a thickness of 3 mm, and a weight of 21 grams, bronze medals with a diameter of 30 mm and a thickness of 3 mm have a weight of 18.02 grams.

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"Carpet Weaving" medal in gold with silver, in bronze, and in painting.

(The author used materials from Rami Meir's personal site https://ramimeir.com). ₪

HEBREW MAGIC SQUARES

by Simcha Kuritzky

Numbers have fascinated humans from the earliest times. Numerous cultures have ascribed mystical and magical powers to them. One of the more popular and interesting forms of numerals are special sequences, and a two-dimensional version of a special sequence is called a magic square. Magic squares have been known for over two millennia. The most popular forms are regular magic squares of size N composed of the integers one through N squared, where every row, column, and major diagonal (from one corner to the opposite corner) adds up to the same number, which is one half of (N cubed + N). Hebrew magic squares use Hebrew characters for the numbers according to gematria.

The Magic Tables Seals & Characters of the Planets their Intelligences & Spirits
The Table of Saturn in his Compass
The same Table in Hebrew
4 9 2
3 5 7
8 1 6

Continued

The most popular magic square is the 3x3 because it contains all 9 unique digits. For Jews, it has special significance because each line adds up to 15, the numeric value of God's name *Yah*. A 3x3 regular magic square of digits 1-9 must have 5 in the center, which is the Hebrew letter *heh* that is often used as an abbreviation of God's Name. The remaining numbers can rotate 90 degrees or reflect horizontally or vertically. In Hebrew amulets, however, the top row is always 4 9 2. This is also the version shown by Sir Francis Barrett in his 1801 classic text *The Magus* as shown here. Barrett's book is considered a classic of Christian Kabbalah or Judeo-Christian magic, and is basically a translation of the 1531 *Occult Philosophy* by Henry Cornelius Agrippa. I have a Jewish amulet on parchment, only a piece of which is shown here, with the normal 3x3 square, and 3 variants. The 3x3 also shows up surrounded by angel names and God's Name of 42 Letters on a silver Persian amulet.

I commissioned a lead amulet based on Barrett's book with the Name of 45 (Yod Heh Vov He spelled out) around the outside since all the numbers added together sum to 45. Last is a Christian amulet with the 3x3 rotated 180 degrees surrounded by angel and planetary sigils. I include this as a Hebrew amulet because above the square are these transliterated Hebrew Names for God: Aba, El Av, and Ehyeh. There is also Taie, but I'm not certain what that means.

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Barrett's four by four square seal of the planet Jupiter appears on a silver amulet commissioned by Mormons based on a copy that was rumored to have been found among Joseph Smith's possessions after his death. The Hebrew letters are even more distorted than they were in Barrett's drawings. Around the outside are the following Hebrew names: אבא *Abba* (Father) with the value of 4 (square size), אל אב *El Av* (Father God) with value 34 (value of each line), and angle name יהפיאל *Yehafiel* with value 136 (value of all the numbers). Near the bottom is the sigil ♃ for Jupiter and the number 136. The square medal from Israel has Western numerals on one side and Hebrew on the other. On both sides the surrounding Hebrew inscription says it is a ריבוע הקסם magic square of נתנאל הכהן the priest Natanel and כוכב יופיטר the planet Jupiter להצלחה ומזל for success and luck (the word for luck, *mazal*, originally meant constellation). The same 4x4 square was engraved recently by an artist in Israel on a low-fineness silver 1825 Turkish 6 piaster. The coin was legal tender in Eretz Israel before it was engraved and may even have circulated there until 1920.

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Barrett ascribes the 6x6 square to the Sun. The English penny of 1825-1860 has the seals engraved on both sides. The magic square uses Western numerals but shows Hebrew names with the numeric values of ו *vov* and הא *heh* with value 6 (square size), אלה *Eloah* (poetic form of *Elokim*, spelled defectively) with value 36 (total number of squares), and angel name נכיאל *Nakhiel* with value 111 (value of each line) around. There is also a sun symbol and the number 666 (value of all numbers) near the bottom. An iron medal shows the same square with Hebrew letters with angel sigils around and either a cherub or lion head over it (the Sun is associated with the constellation Leo). It may be Nineteenth Century based on *The Magus*, but I think it could have been made as early as the Sixteenth Century based on Agrippa's *Occult Philosophy* published in 1531.

There are many more medallic amulets out there with magic squares on them. I included only the ones here because of their Jewish or Hebrew connection. Magic squares and other figures are very popular among Hindus, and eastern Moslems picked them up from the Hindus. More common on Hebrew amulets are squares where the contents are letters from a Name of God or psalm verses. ש

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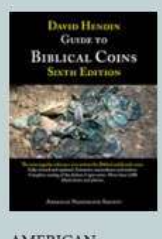

Guide to Biblical Coins (6th ed.)
by David Hendin

Forty-five years after its first edition, Hendin has revised and updated this book to reflect relevant discoveries in archaeology and numismatics of ancient Israel. The metallurgy of Judean coins, symbols on Hasmonean coins, the Hasmonean coin chronology, Herodian mints, irregular issues, the Jewish War, and coin denominations are only a few of the topics that Hendin has updated. New to the sixth edition is numismatic information about the Kingdom of Adiabene, the Ituraean Kingdom, the Roman Governors of Syria, and coins with images of Old Testament stories.
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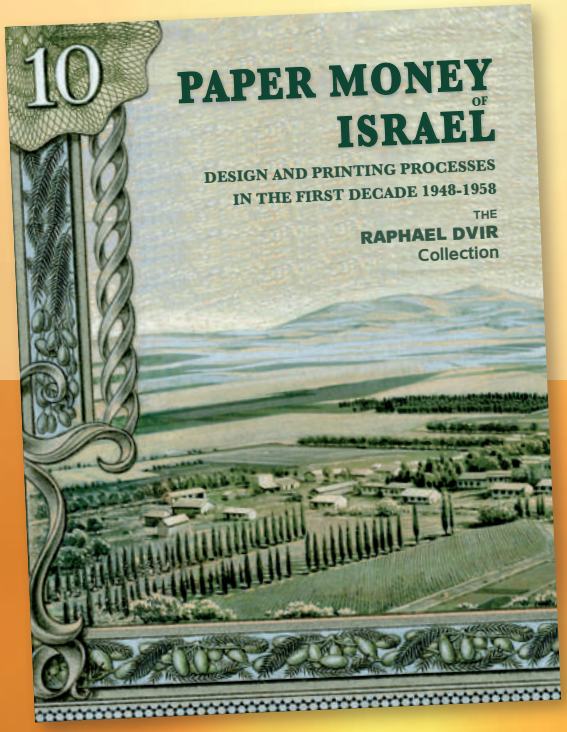

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